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NASA Selects First University-Class Explorers

Small spacecraft to study the vast region between our Sun and nearby stars and the interaction of Earth's radiation belts with the solar wind have been selected as the first missions in NASA's University-class Explorers (UNEX) program.

"This selection is another step in NASA's efforts to provide increased autonomy and responsibility to the university community in the pursuit of new scientific knowledge," said Dr. Wesley T. Huntress Jr., Associate Administrator for NASA's Office of Space Science.

The Cosmic Hot Interstellar Plasma Spectrometer (CHIPS) spacecraft will use an extreme ultraviolet spectrograph during its one-year mission to study the "Local Bubble," a tenuous cloud of hot gas surrounding our Solar System that extends about 300 light-years from the Sun. Scientists believe that the million-degree gas in this region is generated by supernovae and stellar winds from hot stars. They want to better understand the origins and cooling of this gas and apply knowledge of these processes to the study of other galaxies beyond our Milky Way.

The Principal Investigator for CHIPS is Dr. Mark Hurwitz of the University of California, Berkeley. The Earth-orbiting mission will cost \$9.8 million, including launch, and will be launched aboard a commercial Final Analysis Inc. Satellite (FAISAT) as a secondary payload on a Russian Cosmos rocket in mid-2001.

The second mission, the Inner Magnetosphere Explorer (IMEX), will study the response of Earth's Van Allen radiation belts to variations in the solar wind. The energetic charged particles that comprise Earth's radiation belts are potentially hazardous to both astronauts and satellite systems. IMEX will be launched into a 217-mile by 21,748-mile elliptical orbit around Earth with instruments to measure the populations of energetic particles and related magnetic and electric fields throughout Earth's radiation belts on a regular basis.

Together with other NASA satellites, data obtained with IMEX during these 10-hour sweeps should lead to significant improvements in our ability to predict hazardous conditions in Earth's radiation belts and our understanding of the underlying physical processes that connect the solar wind with the state of the Van Allen belts, especially during the upcoming maximum in the solar cycle. The Principal Investigator for IMEX is Dr. John Wygant of the University of Minnesota. IMEX will cost \$13 million and is planned to be launched as a secondary mission on an Air Force Titan IV rocket in June 2001.

The UNEX Program is designed to provide frequent flight opportunities for highly focused and relatively inexpensive science missions whose total cost to NASA is limited to \$13 million. The program is managed by NASA's Goddard Space Flight Center for the Office of Space Science.

Scientists Observe Tall Chimney Cloud In Hurricane Bonnie

NASA researchers have obtained images from Hurricane Bonnie showing a storm cloud towering like a mountain, 59,000 feet into the sky from the eye wall. These images were taken on Saturday, Aug. 22, 1998, by the world's first spaceborne rain radar aboard the Tropical Rainfall Measuring Mission (TRMM), a joint U.S.-Japanese mission.

By comparison, the highest mountain in the world, Mt. Everest, is 29,000 feet and the average commercial jet flies at barely one-half the height of Bonnie's cloud tops.

"It looks like a skyscraper in the clouds," said Dr. Christian Kummerow, TRMM Project Scientist at Goddard Space Flight Center. "This is the first time that TRMM's precipitation radar has seen a structure of this type in a hurricane approaching the U.S. East coast."

"Clouds this tall are rarely observed in the core of Atlantic hurricanes," said Dr. Bob Simpson, former Director of the National Hurricane Center in Miami and the National Hurricane Research Project. "This huge cloud probably happened because, at the time the data was collected, Bonnie was moving very slowly. The lack of movement kept funneling warm moist air into the upper atmosphere, thus raising the entire height of the tropopause, which is normally at around 45-52,000 feet."

Wallops Shorts.....

Balloon Launch

A 39.57 million cubic foot NASA scientific balloon was successfully launched Aug. 30 from Lynn Lake, Manitoba, Canada. The cosmic and heliospheric physics experiment was to perform measurements of positive and negatively charged electron spectra. The principal investigator was Dr. Paul Evenson, University of Delaware. Total flight time was 38 hours, 16 minutes.

CAMEX Support

Gerry McIntire, Raytheon, returned last week from Andros Island, Bahamas where he provided operational and engineering support for the Convection Moisture Experiment (CAMEX) mission. Don Penney, NYMA, is currently on Andros Island and continues to provide support with radiosonde balloon releases.



NASA Administrator Dan Goldin joins Virginia Governor Jim Gilmore and other dignitaries in the Sept. 14 ribbon cutting for the Virginia Space Flight Center launch pad. Digital Photo by Rick Huey.

The Accomack Desert
by Ted Wilz, Senior Meteorologist

The hot, dry trend that has persisted along the Eastern Shore this summer continued into August. Temperatures averaged 1.5° above normal.

Although August is normally our wettest month, we had less than half of the normal amount of rainfall with only

1.72 inches. The normal amount of rainfall for August is 3.79 inches. Even the appearance of Hurricane Bonnie did not help make up for the desert-like conditions we experienced during most of the month. August 1998 would have been the driest month on record had we not received 1.38 inches of rainfall during the last week of the month.

August was a very warm month, but we did not have extended periods of very hot weather. No new record temperatures were recorded. We did tie an old record high of 92° on Aug. 22 and tied the recorded high of 93° on Aug. 29 when Bonnie exited the coast. No new record lows were established during the month.

Hopefully, October will put a chill back in the Eastern Shore air. At the beginning of the month, high temperatures should average in the low 70s and cool to the low 60s by the time Halloween arrives. Average lows should be in the mid 50s at the beginning of the month and drop to the mid 40s by the end of the month. October is generally one of our drier months as well. We usually average only 2.92 inches of rainfall. With the onset of cooler temperatures, now is the time to make sure furnaces, fireplaces, stoves and car heaters are in safe, efficient working order.

While October is usually a month for transition into fall and cooler temperatures, there is still a threat of tropical storms developing. Hurricane Bonnie brought only tropical storm force winds (41 mph) to the Wallops area. We were fortunate not to receive the heavy rain and strong winds that inundated our Virginia Beach neighbors causing significant damage in that area. Although frontal systems moving into the mid-Atlantic often shield us from tropical storms, we must stay prepared for any potential emergency weather event. Do not take storm watches and warnings lightly.

Note of Thanks

I would like to express my appreciation for the support extended me at the time of my father's death. Many members of the Wallops community gave me messages of prayer, love and support. I needed the support during the past month and your presence was reassuring.

Steve Habeger

Back to School

For many working parents, perhaps back to school is "the most wonderful time of the year". It means shopping for clothes, school supplies, sports equipment, etc. It may also require changes to meet carpool and bus schedules. The following are a few suggestions to help alleviate some problems.



- ✓ Organize backpacks or book bags and school supplies the night before. Have children pack off school materials the night before and store their bags by the front door.
- ✓ Every evening, have children choose their outfit for the following day.
- ✓ Prepare lunch boxes or place lunch money in backpacks or book bags the night before. Place lunch money in an agreed upon container and put this in their bags by the front door.
- ✓ Have a game plan for breakfast. Working parents rarely have time to prepare a large breakfast. There are nutritious meals that require little or no time to prepare (i.e. cold cereal with milk, bagels, toast, and fruit).
- ✓ Be prepared for anything. Even the best made plans go astray. Organize childcare resources. Arrange for at least three backups to call upon if a child becomes sick and has to stay home.

Don't forget.....

- E.S. Blood Bank dues must be paid by Sept. 18. Call Linda Layton, x1561.
- "Kareoke", Sept. 18, 6 to 10 p.m. in Bldg. F-3 featuring New Millennium Entertainment with Greg Michaels and Tanya. No charge.
- Early Retirement Authority expires Sept. 30.
- Volunteers are needed for the annual Beach Clean-up, Sept. 19. Call Keith or Betty, x1584, x1579.

**PUBLIC ANNOUNCEMENT -
WORLDWIDE CAUTION**
Sept. 4, 1998

**U.S. DEPARTMENT OF STATE
Office of the Spokesman**

In light of the bombings of the U.S. Embassies in Nairobi, Kenya and Dar es Salaam, Tanzania on Aug. 7, 1998 and the U.S. air strikes in Afghanistan and Sudan on Aug. 20, 1998, the potential for retaliatory acts against Americans and American interests exists. In addition, terrorists, including Osama Bin Ladin, continue their threats against the United States and have not distinguished between military and civilian targets. We take these threats seriously. The U.S. has increased security at United States Government facilities worldwide and a number of our posts have suspended or limited services to the public.

The Department of State reminds Americans to maintain a high level of vigilance and to take appropriate steps to increase their security awareness to lessen their vulnerability. Americans should maintain a low profile, vary routes and times for all required travel, and treat mail from unfamiliar sources with suspicion.

American citizens traveling abroad should contact the nearest U.S. embassy or consulate by telephone or fax for up-to-date information on security conditions. Current information on post operations also is available on the Internet at <http://travel.state.gov>.

In addition, U.S. citizens planning to travel abroad should consult the Department of State's Public Announcements, Travel Warnings, Consular Information Sheets, and regional travel brochures.

This Public Announcement replaces the Aug. 20, 1998, Public Announcement Worldwide Caution and expires on Dec. 4, 1998.

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